

Trend Study 30-47-98

Study site name: Lost Peak .

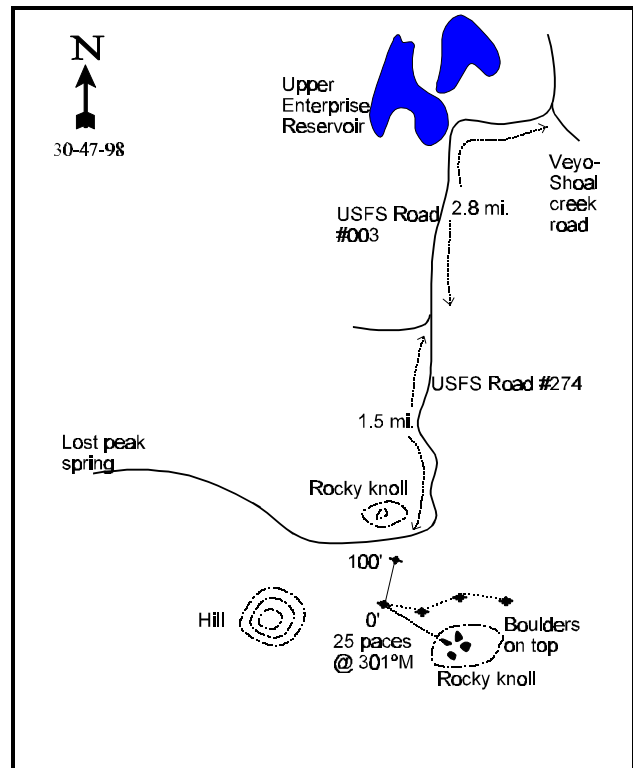
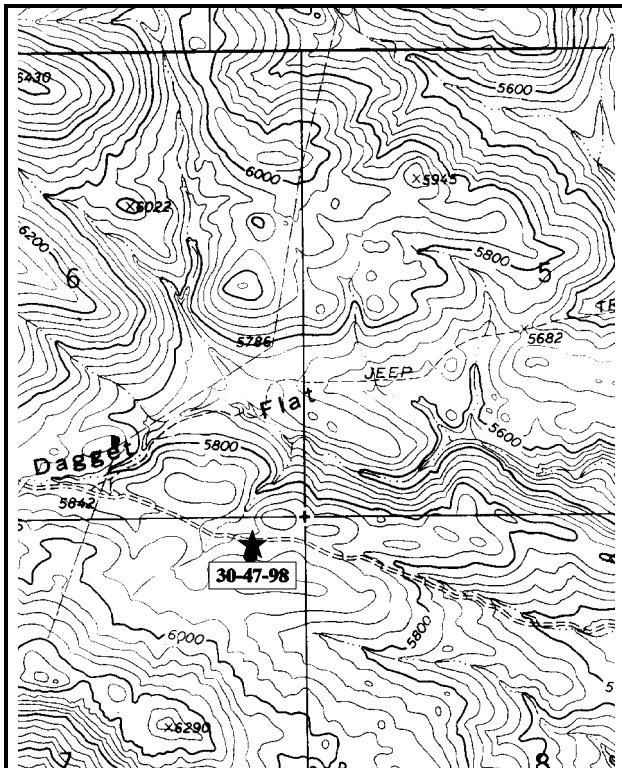
Range type: Oakbrush .

Compass azimuth: frequency baseline 14 M degrees. (Line 2 98°M, line 3 68°M, line 4 93°M)

Footmark (first frame placement) 5 feet. Frequency belt placement; line 1 (8 & 97ft), line 2 (38ft), line 3 (52ft), line 4 (69ft).

LOCATION DESCRIPTION

From Upper Enterprise Reservoir, take the Lost Creek Road towards Lost Peak Spring. This road is USFS Road # 003. Travel south for 2.8 miles to a fork. At the fork turn left on USFS Road #274. Continue 1.5 miles to a sharp turn to the right (west). On the south side of the road are a couple of small knolls. The farthest one to the east has a rock outcrop on top of it. From the rock outcrop, the 0-foot baseline stake is 25 paces away at 301 degrees magnetic. The study is marked by green steel "T" fence posts approximately 12 to 18 inches in height.



Map name: Goldstrike, Utah

Diagrammatic Sketch

Township 38 S , Range 18 W , Section 20 .

UTM 4150242.988 N, 243855.263 E

DISCUSSION

Trend Study No. 30-47 (61C-10)

The Lost Peak trend study is the highest elevation summer range study on the west side of unit 30 at approximately 6,750 feet. The study samples mixed mountain brush range type, characterized as oakbrush intermixed with isolated patches of basin big sagebrush. The site consists of a saddle surrounded on 3 sides by rocky knolls. Deer use appeared heavy in 1982 with abundant pellet groups, heavy utilization of forage plants, and about 40 deer (primarily does and fawns) seen during study site establishment. Pellet group data from the site in 1998 estimate 40 deer and 10 cow days use/acre, with pellet groups concentrated in openings around thick oakbrush and serviceberry.

Soil at the site is moderately deep with an effective rooting depth (see methods) averaging 24 inches. Soil depth is more shallow near the rocky knolls where rock is more concentrated on the surface. Soil texture is a sandy loam with a strongly acid pH (5.3). Ground cover is principally litter from oak and serviceberry with bare ground concentrated in shrub interspaces. There is limited evidence of soil movement here.

Key browse species consist of Utah serviceberry and Gambel oakbrush. Density of serviceberry was estimated at only 266 plants/acre in 1982 because the density plots were concentrated in areas where oakbrush was dominant. A much larger sample was taken in 1998 with the original 100 foot baseline extended to 400 feet. More of the preferred serviceberry was sampled with the new layout. Due to the thick nature of the serviceberry, individual plants were impossible to differentiate so stems were counted. Current ('98) density is estimated at 11,980 stems/acre which provides 47% of the shrub cover. Use is moderate to heavy where available. Vigor is normal and few decadent plants were encountered. Gambel oak presently provides 25% of the browse cover with an estimated density of 6,560 stems/acre in 1998. Oak grows in thick clones with plants becoming unavailable due to height in some places. Most is lightly utilized with normal vigor and low percent decadence. Density has increased since 1982 primarily due to the larger sample used in 1998.

Important understory shrubs include: basin big sagebrush, mountain big sagebrush, currant, and snowberry. These shrubs grow in patches around oak and serviceberry thickets. They show mostly light use.

The herbaceous understory is fairly abundant with forbs providing 57% of the herbaceous cover. Five species of perennial grass provide a relatively sparse cover in shrub interspaces. The most abundant grass is annual cheatgrass which contributes 74% of the grass cover. The only common perennial grasses are mountain brome and mutton bluegrass. Perennial forbs are common and produce 49% of the herbaceous cover. Common species include: wild onion, arrowleaf balsamroot, silvery lupine, and American vetch.

1982 APPARENT TREND ASSESSMENT

Soil and vegetative trends are both stable. Although some barren places exist and soil movement is noticeable, there is not currently a serious problem. The browse component seems healthy, especially Gambel oak, and may be expanding at the expense of a somewhat depleted grass understory. Forb composition and numbers are fair, but may decline if the shrub component gains further dominance.

1998 TREND ASSESSMENT

Trend for soil is stable with similar amounts of bare ground compared to 1982. Litter and vegetative cover are abundant and adequately protect the ground surface from erosion. Trend for browse is up. The increase in density of key browse species is primarily due to the larger sample used in 1998. However, the biotic potentials and proportions of young plants for serviceberry and oak have increased dramatically indicating an expanding population. Serviceberry is the more preferred and displays moderate to heavy use, good vigor, and low decadence. Trend for the herbaceous understory is up. Quadrat frequency of perennial grasses and forbs has increased since 1982. Forbs are abundant and contain several preferred species.

TREND ASSESSMENT

soil - stable

browse - up

herbaceous understory - up

HERBACEOUS TRENDS --

Herd unit 30 , Study no: 47

T y p e	Species	Nested Frequency 08	Quadrat Frequency '82 '98		Average Cover % 08
G	Agropyron dasystachyum	32	1	12	.13
G	Agropyron intermedium	5	-	2	.06
G	Bromus carinatus	36	5	14	1.23
G	Bromus tectorum (a)	237	-	72	9.72
G	Poa fendleriana	48	3	18	2.00
G	Sitanion hystrix	4	8	2	.01
Total for Annual Grasses		237	0	72	9.72
Total for Perennial Grasses		125	17	48	3.44
Total for Grasses		362	17	120	13.16
F	Agoseris glauca	44	-	23	.49
F	Allium spp.	121	-	41	1.38
F	Arabis spp.	3	1	2	.03
F	Arenaria spp.	4	-	2	.18
F	Artemisia ludoviciana	43	24	16	.66
F	Aster spp.	1	-	1	.00
F	Astragalus spp.	4	2	2	.06
F	Astragalus utahensis	3	-	1	.03
F	Balsamorhiza sagittata	20	1	10	3.34
F	Collinsia parviflora (a)	92	-	38	1.56
F	Comandra pallida	-	1	-	-
F	Cymopterus spp.	10	-	5	.51
F	Delphinium nuttallianum	3	-	1	.00
F	Descurainia pinnata (a)	1	-	1	.00
F	Draba spp. (a)	2	-	1	.00
F	Epilobium paniculatum (a)	4	-	1	.15
F	Erigeron eatonii	4	1	2	.06
F	Eriogonum racemosum	2	-	1	.00
F	Fritillaria atropurpurea	3	-	1	.03
F	Galium boreale	13	-	6	.05
F	Hydrophyllum occidentale	14	-	6	.27
F	Lappula occidentalis (a)	4	-	2	.15

Type	Species	Nested Frequency '98	Quadrat Frequency		Average Cover % '98
			'82	'98	
F	Lomatium spp.	6	-	2	.30
F	Lupinus argenteus	88	29	39	4.14
F	Microsteris gracilis (a)	66	-	26	.50
F	Penstemon spp.	2	-	1	.03
F	Phlox longifolia	23	29	9	.19
F	Polygonum douglasii (a)	4	-	1	.00
F	Senecio multilobatus	6	6	3	.06
F	Sphaeralcea coccinea	2	-	1	.03
F	Stellaria jamesiana	3	-	3	.01
F	Vicia americana	111	34	48	2.80
F	Viguiera multiflora	3	-	1	.00
Total for Annual Forbs		173	0	70	2.38
Total for Perennial Forbs		536	128	227	14.73
Total for Forbs		709	128	297	17.12

BROWSE TRENDS --

Herd unit 30 , Study no: 47

Type	Species	Strip Frequency '98	Average Cover % '98
B	Amelanchier utahensis	63	24.22
B	Artemisia tridentata tridentata	4	.56
B	Artemisia tridentata vaseyana	18	2.67
B	Chrysothamnus viscidiflorus	3	.03
B	Opuntia spp.	3	.30
B	Pinus monophylla	1	1.00
B	Quercus gambelii	50	12.69
B	Ribes spp.	6	1.72
B	Symphoricarpos oreophilus	23	8.35
B	Tetradymia canescens	0	-
Total for Browse		171	51.56

CANOPY COVER --

Herd unit 30 , Study no: 47

Species	Percent Cover '98
Pinus monophylla	.80
Quercus gambelii	2

BASIC COVER --

Herd unit 30 , Study no: 47

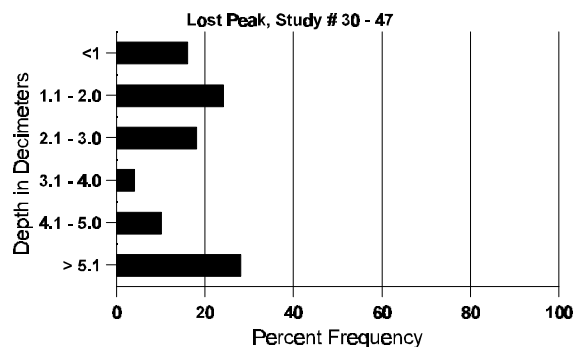
Cover Type	Nested Frequency '98	Average Cover % '82 '98	
Vegetation	362	2.25	65.90
Rock	97	1.25	7.85
Pavement	39	0	.14
Litter	386	83.75	64.97
Cryptogams	-	.25	0
Bare Ground	128	12.50	13.34

SOIL ANALYSIS DATA --

Herd Unit 30, Study # 47, Study Name: Lost Peak

Effective rooting depth (inches)	Temp °F (depth)	pH	%sand	%silt	%clay	%OM	PPM P	PPM K	dS/m
24.0	44.6 (17.7)	5.3	72.0	13.4	14.6	2.4	13.9	169.6	.4

Stoniness Index



PELLET GROUP FREQUENCY --

Herd unit 30 , Study no: 47

Type	Quadrat Frequency '98
Rabbit	2
Deer	23
Cattle	1

BROWSE CHARACTERISTICS --

Herd unit 30, Study no: 47

A Y G R E		Form Class (No. of Plants)									Vigor Class				Plants Per Acre	Average (inches) Ht. Cr.		Total
		1	2	3	4	5	6	7	8	9	1	2	3	4				
Amelanchier utahensis																		
S	82	-	-	-	-	-	-	-	-	-	-	-	-	-	0		0	
	98	14	-	-	41	-	-	-	-	-	55	-	-	-	1100		55	
Y	82	1	-	-	-	-	-	-	-	-	1	-	-	-	33		1	
	98	5	-	-	151	-	-	-	-	-	156	-	-	-	3120		156	
M	82	1	6	-	-	-	-	-	-	-	4	-	3	-	233	59 38	7	
	98	32	236	107	2	34	5	4	-	-	420	-	-	-	8400	45 38	420	
D	82	-	-	-	-	-	-	-	-	-	-	-	-	-	0		0	
	98	2	11	5	-	3	2	-	-	-	12	-	-	11	460		23	
X	82	-	-	-	-	-	-	-	-	-	-	-	-	-	0		0	
	98	-	-	-	-	-	-	-	-	-	-	-	-	-	380		19	
% Plants Showing		<u>Moderate Use</u>			<u>Heavy Use</u>			<u>Poor Vigor</u>			<u>%Change</u>							
'82		75%			00%			38%			+98%							
'98		47%			20%			02%										
Total Plants/Acre (excluding Dead & Seedlings)											'82	266	Dec:	0%				
*stems/acre counted in '98											'98	11980		4%				
Artemisia tridentata tridentata																		
Y	82	2	-	-	-	-	-	-	-	-	2	-	-	-	66		2	
	98	-	-	-	-	-	-	-	-	-	-	-	-	-	0		0	
M	82	1	-	-	-	-	-	-	-	-	1	-	-	-	33	26 39	1	
	98	4	-	-	1	-	-	-	-	-	5	-	-	-	100	19 27	5	
D	82	5	-	-	-	-	-	-	-	-	4	-	1	-	166		5	
	98	-	-	-	-	-	-	-	-	-	-	-	-	-	0		0	
X	82	-	-	-	-	-	-	-	-	-	-	-	-	-	0		0	
	98	-	-	-	-	-	-	-	-	-	-	-	-	-	20		1	
% Plants Showing		<u>Moderate Use</u>			<u>Heavy Use</u>			<u>Poor Vigor</u>			<u>%Change</u>							
'82		00%			00%			13%			-62%							
'98		00%			00%			00%										
Total Plants/Acre (excluding Dead & Seedlings)											'82	265	Dec:	63%				
											'98	100		0%				
Artemisia tridentata vaseyana																		
Y	82	-	-	-	-	-	-	-	-	-	-	-	-	-	0		0	
	98	5	-	-	1	-	-	-	-	-	5	1	-	-	120		6	
M	82	-	-	-	-	-	-	-	-	-	-	-	-	-	0	-	0	
	98	17	1	-	2	-	-	-	-	-	20	-	-	-	400	25 34	20	
D	82	-	-	-	-	-	-	-	-	-	-	-	-	-	0		0	
	98	2	-	-	-	-	-	-	-	-	-	-	-	2	40		2	
X	82	-	-	-	-	-	-	-	-	-	-	-	-	-	0		0	
	98	-	-	-	-	-	-	-	-	-	-	-	-	-	80		4	
% Plants Showing		<u>Moderate Use</u>			<u>Heavy Use</u>			<u>Poor Vigor</u>			<u>%Change</u>							
'82		00%			00%			00%										
'98		04%			00%			07%										
Total Plants/Acre (excluding Dead & Seedlings)											'82	0	Dec:	0%				
											'98	560		7%				
Chrysothamnus viscidiflorus																		

A G E	Y R	Form Class (No. of Plants)									Vigor Class				Plants Per Acre	Average (inches) Ht. Cr.		Total
		1	2	3	4	5	6	7	8	9	1	2	3	4				
M	82	-	-	-	-	-	-	-	-	-	-	-	-	-	0	-	-	0
	98	4	-	-	-	-	-	-	-	-	4	-	-	-	80	14	29	4
		% Plants Showing		<u>Moderate Use</u>			<u>Heavy Use</u>			<u>Poor Vigor</u>			<u>%Change</u>					
		'82		00%			00%			00%								
		'98		00%			00%			00%								
Total Plants/Acre (excluding Dead & Seedlings)												'82	0	Dec:	-			
												'98	80		-			
Chrysothamnus viscidiflorus viscidiflorus																		
M	82	2	1	-	-	-	-	-	-	-	3	-	-	-	100	12	12	3
	98	-	-	-	-	-	-	-	-	-	-	-	-	-	0	-	-	0
		% Plants Showing		<u>Moderate Use</u>			<u>Heavy Use</u>			<u>Poor Vigor</u>			<u>%Change</u>					
		'82		33%			00%			00%								
		'98		00%			00%			00%								
Total Plants/Acre (excluding Dead & Seedlings)												'82	100	Dec:	-			
												'98	0		-			
Opuntia spp.																		
M	82	-	-	-	-	-	-	-	-	-	-	-	-	-	0	-	-	0
	98	4	-	-	1	-	-	-	-	-	3	-	2	-	100	7	19	5
		% Plants Showing		<u>Moderate Use</u>			<u>Heavy Use</u>			<u>Poor Vigor</u>			<u>%Change</u>					
		'82		00%			00%			00%								
		'98		00%			00%			40%								
Total Plants/Acre (excluding Dead & Seedlings)												'82	0	Dec:	-			
												'98	100		-			
Pinus monophylla																		
M	82	-	-	-	-	-	-	-	-	-	-	-	-	-	0	-	-	0
	98	1	-	-	-	-	-	-	-	-	1	-	-	-	20	-	-	1
		% Plants Showing		<u>Moderate Use</u>			<u>Heavy Use</u>			<u>Poor Vigor</u>			<u>%Change</u>					
		'82		00%			00%			00%								
		'98		00%			00%			00%								
Total Plants/Acre (excluding Dead & Seedlings)												'82	0	Dec:	-			
												'98	20		-			

A G E	Y R	Form Class (No. of Plants)									Vigor Class				Plants Per Acre	Average (inches) Ht. Cr.		Total
		1	2	3	4	5	6	7	8	9	1	2	3	4				
Quercus gambelii																		
S	82	-	-	-	-	-	-	-	-	-	-	-	-	-	0			0
	98	10	-	-	11	-	-	6	-	-	27	-	-	-	540			27
Y	82	-	-	-	-	-	-	4	-	-	4	-	-	-	133			4
	98	65	-	-	72	-	-	26	-	-	163	-	-	-	3260			163
M	82	56	7	5	-	-	-	-	-	-	68	-	-	-	2266	37	20	68
	98	109	16	-	14	-	-	7	6	-	136	-	16	-	3040	43	32	152
D	82	-	-	-	-	-	-	-	-	-	-	-	-	-	0			0
	98	12	-	-	-	-	-	-	1	-	10	-	-	3	260			13
X	82	-	-	-	-	-	-	-	-	-	-	-	-	-	0			0
	98	-	-	-	-	-	-	-	-	-	-	-	-	-	280			14
% Plants Showing		<u>Moderate Use</u>			<u>Heavy Use</u>			<u>Poor Vigor</u>			<u>%Change</u>							
'82		10%			07%			00%			+63%							
'98		05%			00%			06%										
Total Plants/Acre (excluding Dead & Seedlings)												'82	2399	Dec:	0%			
												'98	6560		4%			
Ribes spp.																		
M	82	-	-	-	-	-	-	-	-	-	-	-	-	-	0	-	-	0
	98	4	-	-	2	-	-	-	-	-	6	-	-	-	120	42	44	6
% Plants Showing		<u>Moderate Use</u>			<u>Heavy Use</u>			<u>Poor Vigor</u>			<u>%Change</u>							
'82		00%			00%			00%										
'98		00%			00%			00%										
Total Plants/Acre (excluding Dead & Seedlings)												'82	0	Dec:	-			
												'98	120		-			
Ribes velutinum velutinum																		
D	82	-	1	-	-	-	-	-	-	-	-	-	-	1	33			1
	98	-	-	-	-	-	-	-	-	-	-	-	-	-	0			0
% Plants Showing		<u>Moderate Use</u>			<u>Heavy Use</u>			<u>Poor Vigor</u>			<u>%Change</u>							
'82		100%			00%			100%										
'98		00%			00%			00%										
Total Plants/Acre (excluding Dead & Seedlings)												'82	33	Dec:	100%			
												'98	0		0%			
Symphoricarpos oreophilus																		
S	82	-	-	-	-	-	-	-	-	-	-	-	-	-	0			0
	98	1	-	-	2	-	-	-	-	-	3	-	-	-	60			3
Y	82	-	-	-	-	-	-	-	-	-	-	-	-	-	0			0
	98	2	-	-	1	-	-	3	-	-	6	-	-	-	120			6
M	82	17	-	-	-	-	-	-	-	-	17	-	-	-	566	21	13	17
	98	38	-	-	49	-	-	58	-	-	145	-	-	-	2900	21	44	145
D	82	-	-	-	-	-	-	-	-	-	-	-	-	-	0			0
	98	1	-	-	-	-	-	-	-	-	1	-	-	-	20			1
% Plants Showing		<u>Moderate Use</u>			<u>Heavy Use</u>			<u>Poor Vigor</u>			<u>%Change</u>							
'82		00%			00%			00%			+81%							
'98		00%			00%			00%										
Total Plants/Acre (excluding Dead & Seedlings)												'82	566	Dec:	0%			
												'98	3040		1%			

A G E	Y R	Form Class (No. of Plants)									Vigor Class				Plants Per Acre	Average (inches) Ht. Cr.		Total
		1	2	3	4	5	6	7	8	9	1	2	3	4				
Tetradymia canescens																		
M	'82	-	-	-	-	-	-	-	-	-	-	-	-	-	0	-	-	0
	'98	-	-	-	-	-	-	-	-	-	-	-	-	-	0	26	11	0
% Plants Showing		<u>Moderate Use</u>			<u>Heavy Use</u>			<u>Poor Vigor</u>			<u>%Change</u>							
		'82			00%			00%										
		'98			00%			00%										
Total Plants/Acre (excluding Dead & Seedlings)												'82	0	Dec:	-			
												'98	0		-			